AMSAT News Service Weekly Bulletins
Issue: ANS-343
Date: 2018-12-09
Sources: amsat-ans-2018-ans-343-weekly-hyperkitty-2ce0cfd077.txt

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AMSAT NEWS SERVICE
ANS-343

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-343.01
ANS-343 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 343.01
>From AMSAT HQ KENSINGTON, MD.
December 9, 2018
To All RADIO AMATEURS
BID: $ANS-343.01

Fox-1Cliff/AO-95 Commissioning Status

Following the launch of Fox-1Cliff/AO-95 AMSAT Engineering began the commissioning process, with the help of AMSAT Operations, on Tuesday December 4. Satellite telemetry indicates that the bird is healthy, and I thank all of the stations who have captured and relayed the telemetry that enabled us to monitor and determine the health of the various systems on board. Fox-1Cliff required an extended period monitoring battery and power levels due to the anomaly and fix that was applied back in February of 2016 during environmental testing, and the result of that is positive.

However, during the next steps of commissioning we discovered an anomaly with her receive capability. After a few days of tests, analysis, and discussion, it appears that Fox-1Cliff/AO-95 will not be commissioned as our fourth Fox-1 amateur radio satellite.

AMSAT Engineering will continue to evaluate and test Fox-1Cliff/AO-95 for solutions to the anomaly and your continued help in providing telemetry is appreciated so that we can have data throughout her daily orbits rather than limited data over our U.S. stations. The data, analysis, and testing could lead to a positive solution but at the very least will be important to AMSAT's satellite programs in providing information that would help us and others, as we do freely share our successes and failures, to avoid similar situations with future missions.

I would like to thank all of the AMSAT Fox Engineering volunteers who made Fox-1Cliff possible and continue to build our new satellites, becoming even better as we move forward.

I will provide more information on the anomaly and any determination we make regarding the possible cause or causes as well as information on the possibility of recovery, over time. Please be patient regarding that. Many of you have probably built a project and had to troubleshoot it on your bench, we are in a troubleshooting situation here with the additional challenge of being 600 km away from our bench.

[ANS thanks Jerry Buxton, N0JY, AMSAT Vice President of Engineering for the above information]

Fox-1Cliff Launched, Initial Telemetry Received

Fox-1Cliff was successfully launched on Spaceflight's SSO-A: SmallSat Express mission on a SpaceX Falcon 9 from Vandenberg Air Force Base at 18:34:05 UTC on December 3, 2018. Following deployment, the spacecraft was activated on schedule at 23:54:27 UTC.

At approximately 00:30 UTC on December 4th, several stations in Brazil, including PS8MT, PT9BM, and PT2AP, reported hearing the voice beacon "Fox-1Cliff Safe Mode," confirming that the satellite was alive. Just before 00:40 UTC, AMSAT Fox-1 Team Member Burns Fisher, WB1FJ, was the first to submit telemetry to AMSAT servers. Initial telemetry values show the satellite to be in good health.

Thanks to the 29 different stations that contributed telemetry during Fox-1Cliff's initial orbits. At press time this week over 130 stations have received telemetry and uploaded their data to AMSAT's servers.

All stations are encouraged to please continue collecting telemetry during the commissioning process and are reminded not to transmit on the uplink frequencies until AMSAT opens the satellite for general use. The commissioning process is expected to take approximately 7-10 days.

[ANS thanks AMSAT for the above information]

Fox-1Cliff Designated AMSAT-OSCAR 95 (AO-95)

On December 3rd, 2018, Fox-1Cliff was launched on a Falcon 9 vehicle from Vandenberg Air Force Base in California. Part of Spaceflight's SSO-A: Smallsat Express launch, Fox-1Cliff was named after long time AMSAT supporter Cliff Buttschardt, K7RR (SK). In the 48 hours after launch, more than 110 amateur radio operators around the world have successfully received and submitted telemetry from the satellite.

Following in our long tradition of naming amateur satellites, AMSAT hereby designates Fox-1Cliff as AMSAT-OSCAR 95 (AO-95).

Thank you to those who have supported this mission with their time, talent, and financial support for the benefit of amateur radio operators worldwide.

73,
Drew Glasbrenner, KO4MA
AMSAT VP Operations / OSCAR Number Administrator

[ANS thanks Drew Glasbrenner, KO4MA, AMSAT VP Operations / OSCAR Number Administrator for the above information]

ExseedSat Granted VO-96 OSCAR Number

On December 3rd, 2018, ExseedSat was launched on a Falcon 9 vehicle from Vandenberg Air Force Base in California. Part of Spaceflight's SSO-A: Smallsat Express launch, ExseedSat was built by a team of Indian radio hams including Ashhar Farhan (VU2ESE), George Phillips (VU2GT), Gurudutta Panda (VU3GDP), Sasi Bhusan (VU3ELR), and Nitin Mutin (VU3TYG). Initial telemetry has been received around the world.

At the request of Exseed Space, AMSAT hereby designates ExseedSat as VUsat-OSCAR 96 (VO-96). We congratulate the owners and operators of VO-96, thank them for their contribution to the amateur satellite community, and wish them continued success on this and future projects.

73,
Drew Glasbrenner, KO4MA
AMSAT VP Operations / OSCAR Number Administrator

[ANS thanks Drew Glasbrenner, KO4MA, AMSAT VP Operations / OSCAR Number Administrator for the above information]

JY1Sat now Jordan-OSCAR 97 (JO-97)

On December 3rd, 2018, JY1Sat was launched on a Falcon 9 vehicle from Vandenberg Air Force Base in California. Part of Spaceflight's SSO-A: Smallsat Express launch, JY1Sat is a project of the Crown Prince Foundation of Jordan. Telemetry has been received and decoded around the world since the launch.

At the request of the Crown Prince Foundation, AMSAT hereby desig-

nates JY1Sat as Jordan-OSCAR 97 (JO-97). We congratulate the owners and operators of JO-97, thank them for their contribution to the amateur satellite community, and wish them continued success on this and future projects.

73,
Drew Glasbrenner, KO4MA
AMSAT VP Operations / OSCAR Number Administrator

[ANS thanks Drew Glasbrenner, KO4MA, AMSAT VP Operations / OSCAR Number Administrator for the above information]

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two minutes off cycle. For those of you capturing telemetry, that means that you will only see Current frames and no High or Low frames because the High and Low are truncated as it takes just over 10 seconds to send two frames. You will hear Veronica announcing "Fox-1Cliff Safe Mode" while in Beacon Mode.

We will likely leave the satellite in Beacon Mode for 24 hours to observe power telemetry. If we are seeing good readings from what you gather, when it comes over the U.S. for the first good pass after that holding period we will command it from Beacon Mode to normal Safe Mode. That puts Fox-1Cliff in full (still Safe Mode though) operation and transmits a full two frames of telemetry which is one Current frame followed by, and alternating each ID cycle, a High or a Low frame.

On-Orbit Checklist Activities

We will begin the rest of the in orbit checklist activities at that time, and it is expected to take 7 to 10 days.

Help your friends and all of our satellite ham friends get on the air and have fun sooner by being polite and patient!

The in orbit checkout procedure is similar to Fox-1D and could be completed in as little as 7 days if we have the cooperation of the users. It is very important, not to mention just plain good Amateur Operating Practice, to refrain from using the transponder uplink so we can do the on orbit tests, including when we turn on transponder mode for testing. I cannot stress enough, the importance of this cooperation not just for us but also for all users, simply having a little patience so we can conduct the tests as quickly and accurately as possible.

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the last few days of getting Fox-1Cliff in orbit and operating for all of you.

Fox-1Cliff Technical Details

Uplink: 435.300 MHz / 1267.300 MHz** with 67 Hz CTCSS Tone
Downlink: 145.920 MHz
** Uplinks switched by command station, not operational simultaneously
Nominal operating frequencies may vary slightly after launch.

Ground stations need to adjust your transmit frequency for Doppler Shift. One suggested approach includes programming 5 uplink frequencies into memory channels and stepping through the channels depending on Fox-1Cliff's relative position to you. (Fc in the table below is the nominal uplink center frequency = 435.300 MHz).

Full duplex operation is recommended to allow you to hear if you are tuned on-frequency and also avoids interfering if another station is transmitting.

ADJUSTING YOUR UPLINK FREQUENCY to TRACK DOPPLER SHIFT

AOS	(Memory Channel 1) Fc - 10 KHz	435.290 MHz
Approaching	(Memory Channel 2) Fc - 5 KHz	435.295 MHz
Nearest	(Memory Channel 3) Fc	435.300 MHz
Departing	(Memory Channel 4) Fc + 5 KHz	435.305 MHz
LOS	(Memory Channel 5) Fc + 10 KHz	435.310 MHz

Access the Fox-1 Operating Guide on-line at:
https://www.amsat.org/station-and-operating-hints/
Find all of AMSAT Fox-1 frequencies on-line at:
https://www.amsat.org/fm-satellite-frequency-summary/
SatPC32 users can find updated *.SQF files at:
http://tinyurl.com/ANS-336-SatPC32files

[ANS thanks Jerry Buxton, N0JY, AMSAT Vice President-Engineering for the above information]

Updates to AMSAT-NA TLE Distribution for 12-6-2018

Fox-1Cliff has been renamed AMSAT-OSCAR 95 (AO-95) per ANS Special Bulletin
339.01, December 5, 2018.

The following Satellites have been added to this week's AMSAT-NA TLE Distribution.

>From the India ISRO PSLV-C43 launch on November 29, 2018:
FacSat 1 - NORAD CAT ID 43721
Reaktor H W - NORAD CAT ID 43728 (Reaktor Hello World, CAT ID per owner)
InnoSat 2 - NORAD CAT ID 43738
3CAT 1 - NORAD CAT ID 43721 (CAT ID per owner)
Thanks to Nico Janssen, PA0DLO, for ID's on FactSat 1 and InoSat 2)

>From the SpaceX Falcon 9 SSO-A launch on December 3,2018:
OBJECT A - NORAD CAT ID 43758
JY1Sat - NORAD CAT ID 43759
ITASat 1 - NORAD CAT ID 43760
OBJECT D - NORAD CAT ID 43761

OBJECT E - NORAD CAT ID 43762
ESEO - NORAD CAT ID 43763
OBJECT G - NORAD CAT ID 43764
OBJECT H - NORAD CAT ID 43765
OBJECT J - NORAD CAT ID 43766
OBJECT K - NORAD CAT ID 43767
OBJECT L - NORAD CAT ID 43768
AO-95 - NORAD CAT ID 43774 (Fox-1Cliff renamed AO-95)
MOVE-II - NORAD CAT ID 43775
PWSat 2 - NORAD CAT ID 43776

Thanks to Nico Janssen,PA0DLO, for the ID's on JY1-Sat, ITASAT 1, ESEO, MOVE-II, PWsat 2, and AO-95 (Fox-1Cliff).

Note: The Falcon 9 SSO-A 12/3/2018 launch includes 64 spacecraft (15 microsats and 49 cubesats). The 14 objects listed above are those objects with TLEs currently listed by Space-Track.org. The objects are very close together at this time. More CAT IDs probably will be added and some satellites may change their CAT ID. Right now Cat ID 43774 is the best match for AO-95. I recommend patience. More later.

The following satellite has decayed from orbit and has been removed from the distribution:

UNSW-EC0 - NORAD CAT ID 42723 - Decayed December 3, 2018
i-INSPIRE II - NORAD CAT ID 42731 - Decayed November 24, 2018
SFERA 2 - NORAD CAT ID 42913 - Decayed November 29, 2018
Thanks to Nico Janssen, PA0DLO

[ANS thanks Ray Hoad WA5QGD for the above information]

Changes to FUNcube Warehouses

The FUNcube team are busy commissioning JY1Sat and assisting with ESEO.

To this end we have instigated a new data warehouse which will aggregate all the data generated by FUNcube payloads.

This can be found at http://data.amsat-uk.org and is currently supporting NAYIF-1, JY1Sat & ESEO. (The Dashboard warehouse URL for these satellites is the same)

The existing warehouse at http://warehouse.funcube.org.uk will continue to support FUNcube-1 and hold data for UKube-1 and it's Dashboard warehouse URL remains http://data.funcube.org.uk

We appreciate that this may be a little confusing as we transition but please bear with us.

We be transferring all your points from the existing warehouse to the new one in the next few days when the commissioning dust settles.

For those wishing to register or have lost there upload credentials, please visit: http://data.amsat-uk.org/registration
A 'lost credentials' link has been added to the page.

We still have forum.funcube.org.uk available for general discussions.

Dave also mentions that in answer to "how do you handle change of

callsigns?" that they have the ability to put in an alias for the ranking display which does not affect the dashboard credentials.

This should be done by emailing me at operations(a)funcube.org.uk

This is the first bulk email we have sent using the database. If, under the rules of GDPR, please let us know if you would like your account marked as not wishing to receive emails.

[ANS thanks Dave G4DPZ for the above information]

RadFxSat-2 / Fox-1E Launch Date NET March 2019

NASA's CubeSat Launch Initiative has posted upcoming ELaNa Cubesat Launches on their website https://www.nasa.gov/content/upcoming-elana-cubesat-launches.

AMSAT's RadFXSat-2/Fox-1E is among the satellites onboard the ELaNa XX launch set for NET March 2019.

The ELaNa XX Mission will feature the flight of Virgin Orbit Flight 2 LauncherOne from Mojave, California

The 11 CubeSat Missions scheduled to be deployed include:

CACTUS-1 - Capitol Technology University, Laurel, Maryland
CAPE-3 - University of Louisiana Lafayette, Louisiana
EXOCUBE-2 - California Polytechnic University, San Louis Obispo, California
INCA - New Mexico State University, Las Cruces, New Mexico
MicroMas-2b - Massachusetts Institute of Technology, Lexington, Massachusetts
MiTEE - University of Michigan, Ann Arbor, Michigan
PICS - Brigham Young University, Provo, Utah
PolarCube - University of Colorado at Boulder, Boulder, Colorado
Q-PACE - University of Central Florida, Orlando, Florida
RadFXSat-2 - Vanderbilt University, Nashville, Tennessee
TechEdSat-7 - NASA Ames Research Center, Moffett, California

[ANS thanks NASA for alerting us to this information]

Satellites Activation From The Queen Mary On December 15

Patrick WD9EWK will be part of a day of satellite operating from a deck on the RMS Queen Mary, docked at Long Beach in southern California, Saturday 15 December 2018. Operations will be portable, almost like a Field Day, and should include FM, SSB, and possibly packet. All operations from the Queen Mary will be as W6RO, the call sign for the wireless room on the ship operated by the Associated Radio Amateurs of Long Beach. Depending on staffing in the W6RO wireless room, there may also be HF activity during the satellite operation.

Amateur radio has a long history on the Queen Mary, including a special-event station GB5QM that operated as the ship made its final voyage from England to Long Beach in 1967, and in almost 4 decades

with the W6RO operations from Long Beach. More about the history of amateur radio on the Queen Mary is available at:

https://queenmary.com/history/amateur-radio/
http://aralb.org/club-station-w6ro/

Patrick had the pleasure of working AO-7 from W6RO in March 2016. An article covering this quick operation appeared in the AMSAT Journal, and is available from the "Articles" folder in my Dropbox space:

http://dropbox.wd9ewk.net/

as well as an AMSAT-BB posting after that activation:

http://amsat.org/pipermail/amsat-bb/2016-March/057636.html

QSLing for the W6RO satellite activation will be handled per the procedure on W6RO's QRZ page:

http://www.qrz.com/db/W6RO

with one exception: no QSO numbers will be given during the satellite operation. Satellite QSOs from W6RO will be done in the normal manner, with an exchange of call signs and grid locators. W6RO is located in grid DM03. W6RO does not use Logbook of the World, so all QSL requests will need to be mailed directly to the W6RO address in QRZ.

Thanks to Endaf Buckley N6UTC, the Associated Radio Amateurs of Long Beach and the ARALB's W6RO Wireless Room Manager (David Akins N6HHR), and the Queen Mary management for their work in arranging this event. I look forward to another opportunity to work satellites from the Queen Mary.

[ANS thanks Patrick WD9EWK for the above information]

Help Wanted: Radio Amateurs Requested to Monitor Cubesat Downlinks

In addition to Fox-1Cliff, the SSO-A mission carried several other amateur radio satellites, including FUNcube on ESEO, JY1SAT, K2SAT, and ExseedSat.

JY1SAT Signals Heard

Data is being received by many stations around the globe and being uploaded to the data warehouse http://data.amsat-uk.org .

AMSAT-UK has provided Dashboard Software to decode JY1SAT:
https://download.funcube.org.uk/JY1Sat_Dashboard_v1178.msi

The first signals were picked up in Australia approximately 6 minutes after deployment. Commissioning of the spacecraft is continuing and there will be some periods when the telemetry being transmitted is not valid. This will show up with invalid data collection flags in the dashboard.

The spacecraft is presently in safe mode so the TX power is approximately 30mW only! More up to date news and details can be found on the https://funcube.org.uk/ website.

Frequencies for the JY1SAT FUNcube-6 transponder include:
Uplink: 435.100 - 435.120 MHz CW, LSB
Downlink: 145.855 - 145.875 MHz CW, USB
Telemetry: 145.840 MHz (FUNcube BPSK format, new Dashboard software
                        will be made available)

JYISAT will transmit pre-stored images of the Kingdom which have been selected by a national competition. These images will be downlinked using a SSDV digital format.

Exseedsat-1 Heard Intermittently

Please listen to Exseedsat RTTY telemetry on 145.900 FM and send reports directly to Nitin Muttin VU3TYG, vu3tyg at yahoo.co.in. Jerry Buxton, N0JY requests stations with large antennas listen for a possibly weak signal from the satellite.

The telemetry downlink frequency is 145.900 MHz, and is transmitted as five short ASCII words in RTTY. You can use any RTTY software to receive the telemetry. Set the center frequency of RTTY to 2344. The RTTY is sent as 45.45 baud, 7-bit ASCII with one start bit, two stop bits and no parity. We recommend fldigi for receiving the telemetry on PCs. The telemetry decoder is at:
http://amsatindia.org/exseeedsat-rtty-telemetry-decoder/
The satellite sends out a beacon "V" followed by the RTTY telemetry every minute.

Uplink: 435.340 MHz FM voice with 67 Hz CTCSS tone
                       and APRS digipeater
Downlink: 145.900 MHZ FM voice, APRS digipeater, telemetry

ESEO (FUNcube 4)

Signals and telemetry continue to be received from ESEO from the main platform transmitter on 437.00 MHz. The are bursts of 9k6 data transmitted every one minute. Full details of these transmissions, including the telemetry equations, can now be found at https://www.esa.int/Education/ESEO. Daniel Estévez, EA4GPZ, commented that the beacon at 437.000 MHz it is not standard FSK AX.25, and it cannot be decoded with direwolf, UZ7HO or similar.

The AMSAT payload transmitter on 145.895MHz has not yet been activated and it seems likely to be sometime before this occurs.

Uplink: 1263.500 MHz FM voice with 67Hz CTCSS tone
Downlink: 145.895 MHz FM voice and telemetry
Telemetry: 145.875 MHz Use ESEO Dashboard from AMSAT-UK
https://download.funcube.org.uk/ESEO_Dashboard_v1177.msi

See also the AMSAT-UK summary of mission descriptions and frequencies at:
https://amsat-uk.org/2018/11/14/ssoa-amateur-radio-satellites/

[ANS thanks the satellite teams for the above information]

KG5FYI and RN3DX Join KG5TMT and KF5ONO Aboard the ISS

Three astronauts - including two radio amateurs - have docked at the International Space Station (ISS) on the first crewed Soyuz

vehicle launch since a dramatic failure in October. The astronauts from the US, Canada, and Russia, left Kazakhstan at 1130 UTC on December 3, and the Russian space agency Roscomos confirmed their successful docking at the station. On board were David Saint-Jacques, KG5FYI, a Canadian engineer, astrophysicist, and medical doctor; space veteran Oleg Kononenko, RN3DX, of Russia, and Anne McClain, of the US.

The three-person crew's mission was originally set for later this month, but officials moved up the date to avoid leaving the space station unstaffed, when the current ISS crew of cosmonaut Sergey Prokopyev and astronauts Serena Auñón-Chancellor, KG5TMT, and Alexander Gerst, KF5ONO, return to Earth on December 20.

Meanwhile, NASA astronaut Nick Hague, KG5TMV, who was on the aborted October 11 Soyuz launch, is getting ready for another try. Hague, NASA astronaut Christina Hammock Koch, and cosmonaut Alexey Ovchinin are scheduled to launch from Baikonur Cosmodrome on February 28 aboard the Russian Soyuz MS-12 spacecraft.

[ANS thanks the ARRL for the above information]

AMSAT Web Adds Donation Portal

AMSAT relies on your donations to Keep Amateur Radio in Space. Please consider a donation to the AMSAT General Fund, the GOLF Program, or ARISS today!

Access the Donation Portal on the AMSAT front page http://www.amsat.org --> Select Donate from the main menu bar -or- visit https://www.amsat.org/donations/ for direct access to the page.

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dependent on availability of cockpit jumpseat, so subject to cancellation. Keep an eye on the @AL6D_Alaska Twitter for further updates https://twitter.com/AL6D_Alaska

Greenburg, PA (FN00) - December 10-12, 2018
Tanner, W9TWJ, will be travelling for business the week of December 10th-12th, to Greensburg, PA (FN00). He will attempt to be active on FM evening passes and hopefully not freeze! Specific pass announcements will be posted to Twitter: https://twitter.com/twjones85

RMS Queen Mary (DM03) - December 15, 2018
Patrick , WD9EWK, will be part of a day of satellite operating from a deck on the RMS Queen Mary, docked at Long Beach in southern California, on Saturday 15 December 2018. Operations will be portable, almost like a Field Day, and should include FM, SSB, and possibly packet. All operations from the Queen Mary will be as W6RO, the call sign for the wireless room on the
ship operated by the Associated Radio Amateurs of Long Beach.
Depending on staffing in the W6RO wireless room, there may also be HF activity during the satellite operation.
QSLing for the W6RO satellite activation will be handled per the procedure on W6RO's QRZ page: http://www.qrz.com/db/W6RO

Oahu (BL01, BL11) - December 28 thru January 1, 2019,2018
Gabe, AL6D willbe heading to Oahu, Hawaii, at the end of the year. Plan is to operate from BL01 and BL10, linears and FM. Trip is dependent on availability of cockpit jumpseat, so subject to cancellation. Keep an eye on the @AL6D_Alaska Twitter for further updates https://twitter.com/AL6D_Alaska

Please submit any additions or corrections to ke4al (at) amsat.org

For updated information see:
https://www.amsat.org/satellite-info/upcoming-satellite-operations/

[ANS thanks Robert KE4AL for the above information]

ARISS News

The ARISS-US program's education proposal window open Oct. 1 - Nov. 30, 2018 has now closed. The next window should go open in the spring of 2019.

Recent
Successful ARISS Contacts

+ Wed 2018-12-05 14:20 UTC between Alexander Gerst KF5ONO using ISS callsign DPØISS and Realschule & Gymnasium Weingarten, Weingarten, Germany. Contact was direct via DN1RMG. ARISS Mentor was Peter IN3GHZ.

+ Wed 2018-12-05 14:20 UTC between Alexander Gerst KF5ONO using ISS callsign DPØISS and Robert-Mayer-Gymnasium, Heilbronn, Germany. Contact was direct via DN1RMG. ARISS Mentor was Peter IN3GHZ.

+ Fri 2018-12-07 18:48:30 UTC between Serena Aunon-Chancellor KG5TMT using ISS callsign NA1SS and Hudson Memorial School, Hudson, NH. Contact was direct via N1FD. ARISS Mentor was Dave AA4KN

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Smithsonian's National Air and Space Museum will present "Spirit of Apollo," a program celebrating the milestone Apollo 8 mission, which brought humanity together and pushed the limits of exploration. The event will take place at 8 p.m., Tuesday, Dec. 11 (UTC-5), at Washington National Cathedral.

It will air live on NASA Television and the agency's website. (NASA)

+ The Ham Talk Live podcast episode 143 featured an interview with Keith Baker, KB1SF, AMSAT Treasurer, Neil discussed AMSAT's history With Keith. You can listen to a recording of the podcast at: https://www.spreaker.com/show/ham-talk-live (via AMSAT)

+ Middle School and High School cubesats fly on SSO-A with Cliff https://tinyurl.com/ANS343-SchoolSats

+ AO-96 First Signals Heard

AO-96 First Signals were as listed on https://www.amsat.org/fox-1cliff-launched-initial-telemetry-received/ including Burns Fisher as first data. This was first DUV received and arriving at the AMSAT Server. Plus the Brazilian stations listed on that web page heard the voice beacon.

N1JEZ said "Heard [voice beacon] about 7:39 PM [0039 UTC] here in FN34im Burlington, VT. Very low pass. DUV came on, but not enough to grab a packet"

N3CRT reported 2018-12-04 at 0215-fox1cliff received 1 frame TLM

(The above information if a synopsis of reports]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, AA8EM
aa8em at amsat dot org